

Refine Search

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Terms	Documents
L2 same interfac\$3	27

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EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

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Interrupt

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Set Name Query

side by side

*DB=PGPB,USPT,USOC; PLUR=YES; OP=OR*L3 L2 same interfac\$3L2 primary same secondary same function same monitor\$3 same busL1 "primary function" same "secondary function" same monitor\$3 same bus**Hit Count Set Name**

result set

27 L3141 L21 L1

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
(702/122 702/190 713/153 713/154 709/224 709/217 709/249 370/245 370/252 370/451 710/305 710/105 710/15 714/47 714/799).ccls.	15025

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DATE: Friday, June 24, 2005 [Printable Copy](#) [Create Case](#)

Set
Name Query
side by
side

Hit
Count Set
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result
set

DB=PGPB,USPT,USOC; PLUR=YES; OP=OR

L1 710/305,105,15;709/224,217,249;370/245,252,451;713/153,154;702/122,190;714/47,799.ccls. 15025 L1

END OF SEARCH HISTORY

Refine Search

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L1 and L2	6

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DB=PGPB,USPT,USOC; PLUR=YES; OP=OR

L3 11 and L26 L3L2 (primary adj5 function) same (secondary adj5 function) same monitor\$384 L2L1 710/305,105,15;709/224,217,249;370/245,252,451;713/153,154;702/122,190;714/47,799.ccls. 15025 L1

END OF SEARCH HISTORY

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Search Results -

Terms	Documents
(primary adj1 function) same (secondary adj5 function) same monitor\$3	2

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US OCR Full-Text Database
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DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L1 (primary adj1 function) same (secondary adj5 function) same monitor\$3

Hit Count Set Name

result set

2 L1

END OF SEARCH HISTORY

EAST - [Untitled1:1]

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☐ Drafts
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 L1: (116) (primary near
 L2: (10) 11 same bus
☐ Failed
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☐ Tagged (0)
☐ UDC
☐ Queue
☐ Trash

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 Default operator: OR ☒ Highlight all hit terms initially

11 same bus

☒ BR3 form ☒ IS&R form ☒ Image ☒ Text ☒ HTML

	U	I	Document ID	Issue Dat	Pages	Title	Current OR	Current XR
1	<input type="checkbox"/>	<input type="checkbox"/>	US 6286048 B1	20010904	11	System and method for discovering relative st	709/225	
2	<input type="checkbox"/>	<input type="checkbox"/>	US 6230089 B1	20010508	21	Turf maintenance vehicle multiple contro	701/48	701/33; 701/36;
3	<input type="checkbox"/>	<input type="checkbox"/>	US 5809220 A	19980915	17	Fault tolerant distributed control svcs	714/12	714/55
4	<input type="checkbox"/>	<input type="checkbox"/>	US 5796935 A	19980818	19	Voting node for a distributed control svcs	714/11	714/797
5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 5706278 A	19980106	18	Deterministic network protocol	370/222	370/443; 370/452;
6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 5634025 A	19970527	26	Method and system for efficiently fetching va	712/207	
7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 4190863 A	19800226	19	Remote control system for a television camera	348/211.5	
8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 4170024 A	19791002	20	Television control system	348/211.14	
9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	US 4167022 A	19790904	20	Setup control unit for television cameras	348/188	348/211.7; 348/722
10	<input type="checkbox"/>	<input type="checkbox"/>	US 4158208 A	19790612	18	Automatic setup system for television cameras	348/176	348/207.99 ;



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Results for "((primary function) and (secondary function)<in>metadata)"

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IEEE JNL IEEE Journal or Magazine

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IEEE JNL IEEE Journal or Magazine

Display Format: ☒ Citation ☐ Citation & Abstract

IEEE CNF IEEE Conference Proceeding

IEEE CNF IEEE Conference Proceeding

Select Article Information

IEEE STD IEEE Standard



1. Leak checker data acquisition system

Payne, J.; Gannon, J.;
Particle Accelerator Conference, 1993., Proceedings of the 1993
17-20 May 1993 Page(s):3870 - 3872 vol.5

[AbstractPlus](#) | Full Text: [PDF](#)(344 KB) IEEE CNF


2. Space Shuttle RTOS Bayesian network

Morris, A.T.; Beling, P.A.;
Digital Avionics Systems, 2001. DASC. The 20th Conference
Volume 1, 14-18 Oct. 2001 Page(s):4D5/1 - 4D5/13 vol.1

[AbstractPlus](#) | Full Text: [PDF](#)(970 KB) IEEE CNF

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Leak checker data acquisition system

Payne, J. GAMBLE, J.

Dept. of Electr. Eng., SSC Lab., Dallas, TX, USA.

This paper appears in: **Particle Accelerator Conference, 1993., Proceedings of the 1993**

Publication Date: 17-20 May 1993

On page(s): 3870 - 3872 vol.5

Meeting Date: 05/17/1993 - 05/20/1993

Location: Washington, DC

INSPEC Accession Number: 4795348

DOI: 10.1109/PAC.1993.309796

Posted online: 2002-08-06 18:59:02.0

Abstract

A portable, high speed, computerized, data logging system is proposed. The **primary function** of this system is to collect 'helium readings' from mass spectrometers. This system monitors up to 14 mass spectrometers, operating from as far away as 1 kilometer, or clustered to isolate a helium leak within 20 cm. Data logging enables technicians to witness the flight of the helium through the magnet string by a graphical plotting of every channel within microseconds of when the helium was released into the vacuum. The readings are used to locate vacuum leaks and provide acceptance testing of the vacuum system for a string of superconducting magnets. The **secondary functions** of this system are the documentation of test conditions, archiving data sets for future reference, and providing a real-time display of all channels as the string of magnets approach critical test conditions

Index Terms

Inspec

Controlled Indexing

He leak He readings acceptance testing computerized data logging system data acquisition data acquisition system data loggers leak checker leak detection mass spectrometers mass spectroscopy spectroscopy computing vacuum leaks vacuum system

Non-controlled Indexing

He leak He readings acceptance testing computerized data logging system data acquisition data acquisition system data loggers leak checker leak detection mass spectrometers mass spectroscopy spectroscopy computing vacuum leaks vacuum system

Author Keywords

Not Available

References

No references available on IEEE Xplore.

Citing Documents

No citing documents available on IEEE Xplore.

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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 20050076151 A1

L3: Entry 1 of 6

File: PGPB

Apr 7, 2005

PGPUB-DOCUMENT-NUMBER: 20050076151

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050076151 A1

TITLE: Wireless bridge device within a process control system

PUBLICATION-DATE: April 7, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tapperson, Gary	Austin	TX	US	
Boyd, Thomas Andrew	Austin	TX	US	

US-CL-CURRENT: 709/249

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 2. Document ID: US 20040139264 A1

L3: Entry 2 of 6

File: PGPB

Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040139264

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gros, Thomas	Neustadt		DE	
Faist, Fridolin	Oberwolfach		DE	

US-CL-CURRENT: 710/305

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 3. Document ID: US 6327620 B1

L3: Entry 3 of 6

File: USPT

Dec 4, 2001

US-PAT-NO: 6327620

DOCUMENT-IDENTIFIER: US 6327620 B1

TITLE: Methods and apparatus for collecting, storing, processing and using network traffic data

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 4. Document ID: US 6279037 B1

L3: Entry 4 of 6

File: USPT

Aug 21, 2001

US-PAT-NO: 6279037

DOCUMENT-IDENTIFIER: US 6279037 B1

TITLE: Methods and apparatus for collecting, storing, processing and using network traffic data

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 5. Document ID: US 5793963 A

L3: Entry 5 of 6

File: USPT

Aug 11, 1998

US-PAT-NO: 5793963

DOCUMENT-IDENTIFIER: US 5793963 A

TITLE: Apparatus for providing non-redundant secondary access to field devices in a distributed control system

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 6. Document ID: US 5699348 A

L3: Entry 6 of 6

File: USPT

Dec 16, 1997

US-PAT-NO: 5699348

DOCUMENT-IDENTIFIER: US 5699348 A

TITLE: Method and apparatus for error performance monitoring of a leased telecommunication circuit

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 1. Document ID: US 20050057224 A1

L3: Entry 1 of 27

File: PGPB

Mar 17, 2005

PGPUB-DOCUMENT-NUMBER: 20050057224

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050057224 A1

TITLE: Alternating-source peak-shift power application system, method and program product

PUBLICATION-DATE: March 17, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Naitoh, Arimasa	Fujisawa-shi		JP	
Odaohhara, Shigefumi	Yamato-shi		JP	

US-CL-CURRENT: [320/128](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RMC	Draw Desc	Image
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☐ 2. Document ID: US 20040239173 A1

L3: Entry 2 of 27

File: PGPB

Dec 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040239173

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040239173 A1

TITLE: Redundant architecture for brake-by-wire system

PUBLICATION-DATE: December 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Williams, Aaron Charles	Hinesburg	VT	US	
Ash, Bryan Antony	Bristol	VT	US	
Conklin, Peter Stanton	South Burlington	VT	US	
Zwick, David	Pittsford	NY	US	
Townsend, David	Montreal		CA	

US-CL-CURRENT: [303/3](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RMC	Draw Desc	Image
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☐ 3. Document ID: US 20040215569 A1

L3: Entry 3 of 27

File: PGPB

Oct 28, 2004

PGPUB-DOCUMENT-NUMBER: 20040215569

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040215569 A1

TITLE: Method to ensure a unique machine serial number

PUBLICATION-DATE: October 28, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Agha, Salim Ahmed	Rochester	MN	US	
Birkestrand, Daniel Charles	Rochester	MN	US	
Igel, Stephen Mark	Rochester	MN	US	
Lewis, David Otto	Rochester	MN	US	

US-CL-CURRENT: 705/57

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 4. Document ID: US 20040139264 A1

L3: Entry 4 of 27

File: PGPB

Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040139264

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gros, Thomas	Neustadt		DE	
Faist, Fridolin	Oberwolfach		DE	

US-CL-CURRENT: 710/305

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 5. Document ID: US 20030216969 A1

L3: Entry 5 of 27

File: PGPB

Nov 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030216969

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030216969 A1

TITLE: Inventory management system

PUBLICATION-DATE: November 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bauer, Donald G.	Laurel	MD	US	
Campero, Richard J.	Ellicott City	MD	US	
Rasband, Paul B.	Frederick	MD	US	
Weel, Martin D.	Coto De Caza	CA	US	

US-CL-CURRENT: 705/22; 235/385, 340/5.92

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 6. Document ID: US 20030204657 A1

L3: Entry 6 of 27

File: PGPB

Oct 30, 2003

PGPUB-DOCUMENT-NUMBER: 20030204657

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030204657 A1

TITLE: Method and apparatus for BIOS control of electrical device address/identification assignments

PUBLICATION-DATE: October 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lehwalder, Philip R.	Portland	OR	US	
Barmore, Brad A.	Portland	OR	US	

US-CL-CURRENT: 710/301

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 7. Document ID: US 20020065582 A1

L3: Entry 7 of 27

File: PGPB

May 30, 2002

PGPUB-DOCUMENT-NUMBER: 20020065582

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020065582 A1

TITLE: Electro-statically-shielded processing module

PUBLICATION-DATE: May 30, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Morrison, Brian D.	Hopkinton	MA	US	
Connolly, Paul A.	Milford	MA	US	

US-CL-CURRENT: 700/286; 700/22, 73/1.35

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 8. Document ID: US 6826715 B1

L3: Entry 8 of 27

File: USPT

Nov 30, 2004

US-PAT-NO: 6826715

DOCUMENT-IDENTIFIER: US 6826715 B1

TITLE: Automatic capture and comparison of computer configuration data

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 9. Document ID: US 6807149 B1

L3: Entry 9 of 27

File: USPT

Oct 19, 2004

US-PAT-NO: 6807149

DOCUMENT-IDENTIFIER: US 6807149 B1

TITLE: Method and system for LEC resiliency with fast failover

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 10. Document ID: US 6601190 B1

L3: Entry 10 of 27

File: USPT

Jul 29, 2003

US-PAT-NO: 6601190

DOCUMENT-IDENTIFIER: US 6601190 B1

TITLE: Automatic capture and reporting of computer configuration data

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 11. Document ID: US 6600972 B2

L3: Entry 11 of 27

File: USPT

Jul 29, 2003

US-PAT-NO: 6600972

DOCUMENT-IDENTIFIER: US 6600972 B2

TITLE: Electro-statically-shielded processing module

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
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☐ 12. Document ID: US 6426957 B1

L3: Entry 12 of 27

File: USPT

Jul 30, 2002

US-PAT-NO: 6426957

DOCUMENT-IDENTIFIER: US 6426957 B1

TITLE: Asynchronous transfer mode based service consolidation switch

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
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☐ 13. Document ID: US 6356809 B1

L3: Entry 13 of 27

File: USPT

Mar 12, 2002

US-PAT-NO: 6356809

DOCUMENT-IDENTIFIER: US 6356809 B1

**** See image for Certificate of Correction ****

TITLE: Electro-statically shielded processing module

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
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☐ 14. Document ID: US 6314523 B1

L3: Entry 14 of 27

File: USPT

Nov 6, 2001

US-PAT-NO: 6314523

DOCUMENT-IDENTIFIER: US 6314523 B1

TITLE: Apparatus for distributing power to a system of independently powered devices

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draw Desc	Image
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☐ 15. Document ID: US 6295090 B1

L3: Entry 15 of 27

File: USPT

Sep 25, 2001

US-PAT-NO: 6295090

DOCUMENT-IDENTIFIER: US 6295090 B1

TITLE: Apparatus for providing video resolution compensation when converting one video source to another video source

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Desc	Image
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☐ 16. Document ID: US 6201580 B1

L3: Entry 16 of 27

File: USPT

Mar 13, 2001

US-PAT-NO: 6201580

DOCUMENT-IDENTIFIER: US 6201580 B1

**** See image for Certificate of Correction ****

TITLE: Apparatus for supporting multiple video resources

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Desc	Image
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☐ 17. Document ID: US 6157464 A

L3: Entry 17 of 27

File: USPT

Dec 5, 2000

US-PAT-NO: 6157464

DOCUMENT-IDENTIFIER: US 6157464 A

TITLE: Facsimile store and forward system with local interface

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Desc	Image
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☐ 18. Document ID: US 6044207 A

L3: Entry 18 of 27

File: USPT

Mar 28, 2000

US-PAT-NO: 6044207

DOCUMENT-IDENTIFIER: US 6044207 A

TITLE: Enhanced dual port I/O bus bridge

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Desc	Image
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☐ 19. Document ID: US 5930237 A

L3: Entry 19 of 27

File: USPT

Jul 27, 1999

US-PAT-NO: 5930237

DOCUMENT-IDENTIFIER: US 5930237 A

TITLE: Video conference system with ATM cell reuse

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWOC	Draw Desc	Image
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☐ 20. Document ID: US 5850395 A

L3: Entry 20 of 27

File: USPT

Dec 15, 1998

US-PAT-NO: 5850395

DOCUMENT-IDENTIFIER: US 5850395 A

**** See image for Certificate of Correction ****

TITLE: Asynchronous transfer mode based service consolidation switch

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWOC	Draw Desc	Image
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☐ 21. Document ID: US 5559611 A

L3: Entry 21 of 27

File: USPT

Sep 24, 1996

US-PAT-NO: 5559611

DOCUMENT-IDENTIFIER: US 5559611 A

TITLE: Facsimile store and forward system with local interface

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWOC	Draw Desc	Image
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☐ 22. Document ID: US 5555100 A

L3: Entry 22 of 27

File: USPT

Sep 10, 1996

US-PAT-NO: 5555100

DOCUMENT-IDENTIFIER: US 5555100 A

TITLE: Facsimile store and forward system with local interface translating DTMF signals into store and forward system commands

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWOC	Draw Desc	Image
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☐ 23. Document ID: US 5517631 A

L3: Entry 23 of 27

File: USPT

May 14, 1996

US-PAT-NO: 5517631

DOCUMENT-IDENTIFIER: US 5517631 A

TITLE: Miniature disk drive having embedded sector servo with split data fields and automatic on-the-fly data block sequencing

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWOC	Draw Desc	Image
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☐ 24. Document ID: US 4805171 A

L3: Entry 24 of 27

File: USPT

Feb 14, 1989

US-PAT-NO: 4805171

DOCUMENT-IDENTIFIER: US 4805171 A

TITLE: Unitary PCM rate converter and multiframe buffer

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWOC	Draw Desc	Image
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☐ 25. Document ID: US 4695944 A

L3: Entry 25 of 27

File: USPT

Sep 22, 1987

US-PAT-NO: 4695944

DOCUMENT-IDENTIFIER: US 4695944 A

TITLE: Computer system comprising a data, address and control signal bus which comprises a left bus and a right bus

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWOC	Draw Desc	Image
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☐ 26. Document ID: US 4489438 A

L3: Entry 26 of 27

File: USPT

Dec 18, 1984

US-PAT-NO: 4489438

DOCUMENT-IDENTIFIER: US 4489438 A

TITLE: Audio response system

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWOC	Draw Desc	Image
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☐ 27. Document ID: US 3432841 A

L3: Entry 27 of 27

File: USOC

Mar 11, 1969

US-PAT-NO: 3432841

DOCUMENT-IDENTIFIER: US 3432841 A

TITLE: STATUS INDICATING AND ALARM ANNUNCIATING SYSTEMS FOR ELECTRICALLY POWERED DEVICES

DATE-ISSUED: March 11, 1969

INVENTOR-NAME: CLAY CHARLES L; HARVEY HERBERT ; SIMS MARTIN H

US-CL-CURRENT: 340/635, 340/654, 361/23

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWOC	Draw Desc	Image
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Terms	Documents
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L3: Entry 25 of 27

File: USPT

Sep 22, 1987

US-PAT-NO: 4695944

DOCUMENT-IDENTIFIER: US 4695944 A

TITLE: Computer system comprising a data, address and control signal bus which comprises a left bus and a right bus

DATE-ISSUED: September 22, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zandveld; Frederik	Beekbergen			NL
Visser; Jeroen M.	Beekbergen			NL

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
U.S. Philips Corporation	New York	NY			02

APPL-NO: 06/ 910796 [PALM]

DATE FILED: September 22, 1986

PARENT-CASE:

This is a continuation of application Ser. No. 495,379, filed May 17, 1983, now abandoned.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
NL	8202060	May 19, 1982

INT-CL: [04] G06F 13/14, G06F 13/38

US-CL-ISSUED: 364/200

US-CL-CURRENT: 710/105

FIELD-OF-SEARCH: 364/2MSFile, 364/9MSFile

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

Search ALL

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4047162</u>	September 1977	Dorey et al.	364/900
<input type="checkbox"/>	<u>4106104</u>	August 1978	Nitta et al.	364/900
<input type="checkbox"/>	<u>4231086</u>	October 1980	Tarbox et al.	364/200
<input type="checkbox"/>	<u>4257099</u>	March 1981	Appelt	364/200

<input type="checkbox"/> 4320451	March 1982	Bachman et al.	364/200
<input type="checkbox"/> 4380798	April 1983	Shannon et al.	364/200
<input type="checkbox"/> 4390943	June 1983	Twibell et al.	364/200
<input type="checkbox"/> 4442504	April 1984	Dummermuth et al.	364/900

OTHER PUBLICATIONS

Madnick, "Operation System", pp. 255-261, 1974, McGraw-Hill.

ART-UNIT: 232

PRIMARY-EXAMINER: Eng; David Y.

ATTY-AGENT-FIRM: Haken; Jack E. Cannon, Jr.; James J.

ABSTRACT:

A computer system comprises a bus for data, address and control signals which is divided into a left bus and a right bus by a first gating device. The gating device has an open state which is character-wise activated by a right bus request transported on the left bus. Furthermore, the gating device conducts start signals from a processor station connected to the left bus and interrupt signals from a peripheral apparatus connected to the right bus. In the closed state of the gating device, bulk data transport is possible on the right bus without interfering with the processor station. The processing speed is thus increased.

7 Claims, 7 Drawing figures

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L1: Entry 1 of 1

File: PGPB

Jul 15, 2004

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

Summary of Invention Paragraph:

[0020] This problem is solved according to a first aspect of the invention by a newly designed bus station such as a sensor, an actuator, a control unit or a gateway, etc. combining the primary function of each device with a secondary function, i.e. the bus monitor function, by integrating a bus monitoring means in the bus station. In the context of the present invention, the primary function refers to the main purpose of each bus station, i.e. the device to be coupled to the bus for which it is used. For example, the primary function of a sensor is to detect physical processes and to convert them into electrical or digital signals that may be further processed and evaluated. According to the invention, each bus station, apart from this primary function, also uses the bus interface, already present for the purposes of process data communication, to carry out the monitoring of the bus system as a secondary task.

CLAIMS:

1. A bus station having a primary function such as a sensor function and that may be coupled to a bus system, comprising: at least one bus interface for communication of said bus station with said bus system, and a bus monitor means integrated with said bus station and coupled to said bus interface, said bus monitor means giving said bus station a secondary function, wherein said bus monitor means is adapted for at least one of the following activities: monitoring of the communication of said bus station with said bus system via said bus interface, and monitoring of the internal communication within said bus station.

23. A network having at least one bus system and at least one bus station having a primary function, such as a sensor function, and which may be coupled to a bus system, wherein said bus station comprises at least one bus interface for communication of said bus station with said bus system, and a bus monitor means; wherein said bus monitor means is integrated with said bus station and coupled to said bus interface, and giving said bus station a secondary function, wherein said bus monitor means is adapted for monitoring of the communication of said bus station with said bus system via said bus interface, wherein said network is monitored by means of said bus monitor means integrated with said bus station.

24. A method for carrying out monitoring processes of a bus system, comprising: coupling a bus station to said bus system, wherein said bus station has a primary function such as a sensor function, and comprising at least one bus interface for communication of said bus station with said bus system, and a bus monitor means; wherein said bus monitor means is integrated with said bus station and coupled to said bus interface, wherein said bus monitor means gives a secondary function to said bus station in the form of said monitoring, monitoring the communication of said bus station with said bus system via said bus interface by means of said bus monitor means.

27. A method for carrying out monitoring processes of a bus system, comprising: coupling a bus station to said bus system, wherein said bus station has a primary function such as a sensor function, and comprising at least one bus interface for communication of said bus station with said bus system, and a bus monitor means; wherein said bus monitor means is integrated with said bus station and coupled to said bus interface, wherein said bus monitor means gives a secondary function to said bus station in the form of said monitoring, monitoring the internal communication of said bus station by means of said bus monitor means.

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L1: Entry 1 of 1

File: PGPB

Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040139264

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gros, Thomas	Neustadt		DE	
Faist, Fridolin	Oberwolfach		DE	

APPL-NO: 10/ 623199 [\[PALM\]](#)

DATE FILED: July 18, 2003

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/397558, filed July 18, 2002,

INT-CL: [07] [G06 F 13/14](#)

US-CL-PUBLISHED: 710/305

US-CL-CURRENT: [710/305](#)

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

The present invention relates to a bus station (14; 15; 23) such as a sensor (14), an actuator (15) or a gateway (23) fulfilling, apart from their primary device immanent function, a secondary function, namely a bus monitor function. In order to be able to fulfil said secondary function, the bus stations (14; 15; 23) are each equipped with a bus monitor means (30) which makes it possible to access, to detect and to further process the telegram traffic carried on the bus system (5; 40). The invention also relates to a network equipped with such bus stations (14; 15; 23) and a method for carrying out such monitoring with the aid of said bus stations (14; 15; 23).

PRIORITY CLAIM

[0001] This application claims the benefit of U.S. Provisional Patent Application Serial No. 60/397,558 filed on Jul. 18, 2002 which is expressly incorporated herein, in its entirety, by reference.

[Previous Doc](#) [Next Doc](#) [Go to Doc#](#)

US-PAT-NO: 5809220

DOCUMENT-IDENTIFIER: US 5809220 A

TITLE: Fault tolerant distributed control system

----- KWIC -----

Detailed Description Text - DETX (2):

Referring to FIG. 1, a block diagram of a distributed intelligence fault tolerant control-by-light.TM. system 10 is shown comprising a deterministic network protocol for communication with a plurality of intelligent nodes 12, 14, 16, 18, 20. Such nodes 12-20 are connected to one or more bi-directional serial buses 21, 22, 23, each of said buses being a single fiber optic ring in the preferred embodiment. The number of nodes shown in FIG. 1 is only representative of a system and one skilled in the art will recognize that many node configurations are feasible depending on the particular system application. The system 10 is particularly useful for aircraft control by providing a low cost fault-tolerant control-by-light.TM. distributed intelligence system for sensing and control across fault tolerant fiber optic networks. The system 10 uses the distributed local intelligent nodes 12-20 to sense and/or control physical parameters and actuators with messages being passed across redundant serial buses 21, 22, 23 whenever sense or control information changes. In order to achieve fault tolerant operation, two, three or four or more redundant data buses are employed depending upon the criticality, and redundancy is also employed in certain intelligent nodes performing critical functions such as sensor/actuator functions in an aircraft control system. The coupling of the nodes 12-20 to the serial data buses is accomplished by transceivers 26.sub.1-N and each transceiver 26.sub.1-N is connected to a digital control and communication processor (DCCP) 28.sub.1-N. Each combination of a transceiver and a DCCP may be referred to as a processing element. This system 10 in an aircraft application replaces mechanical, hydraulic and electrical controls now used by aircraft pilots to control, monitor, and display primary and secondary flight control functions and it provides substantial weight, cost, safety and performance advantages over current techniques. This system 10 is applicable to control of other systems besides aircraft such as ground transportation, surface and submarine ships, spacecraft, utilities and industrial process controls. Although the data bus media in the present preferred embodiment is implemented with fiber optics, the deterministic network protocol is applicable to other mediae such as twisted pair wiring and power lines.



US05809220A

United States Patent [19]

[11] Patent Number: 5,809,220

Morrison et al.

[45] Date of Patent: Sep. 15, 1998

[54] FAULT TOLERANT DISTRIBUTED CONTROL SYSTEM

[75] Inventors: Brian D. Morrison, Hopkinton; Craig E. Wierha, Holliston; Martin R. Batten, North Grafton; Michael N. Robillard, Shrewsbury, all of Mass.

[73] Assignee: Raytheon Company, Lexington, Mass.

[21] Appl. No.: 804,941

[22] Filed: Jul. 20, 1995

[51] Int. Cl.: G06F 11/00

[52] U.S. Cl.: 395/182.1; 395/185.06

[58] Field of Search: 395/160, 182.02, 395/183.06, 184.01, 182.09, 182.1, 185.08, 370/105, 105.4, 105.5, 371/47.1

[56] References Cited

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Primary Examiner—Robert W. Beausoliel, Jr.

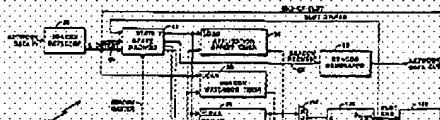
Assistant Examiner—Joseph E. Palys

Attorney, Agent, or Firm—Donald F. McEldon

[57] ABSTRACT

A fault tolerant distributed intelligence control system for sensing and control across fault tolerant fiber optic communication media interconnecting a plurality of intelligent nodes. Each intelligent node comprises a digital control and communication processor (DCCP) operating autonomously in relation to DCCPs at other nodes, and a transceiver for interfacing with the communication media. The fiber optic communication media comprises bi-directional serial data buses. The combination provides a low cost highly reliable distributed control system particularly applicable to primary and secondary aircraft control systems, as well as to other vehicle and control systems.

16 Claims, 7 Drawing Sheets



File Edit View Tools Window Help

US-PAT-NO: 4158208

DOCUMENT-IDENTIFIER: US 4158208 A

TITLE: Automatic setup system for television cameras

----- KWIC -----

Detailed Description Text - DETX (29):

The encoder 166 comprises four such up/down counters or accumulators 166a, 166b, 166c and 166d which four accumulator outputs are sequentially provided each field to the gate 159 in response to gating signals sent via four leads 158 from commutator 157. Each of the leads 158 are coupled to a gating input of a different one of the accumulators. The commutator 157 is responsive to the vertical sync signal for sequentially gating during each field the four addresses selected by the primary and monitoring buttons and for gating the data in the appropriate accumulator and for gating the repeat address following the data. If no data is present (no change in the knobs) a signal from that up/down counter or accumulator is sent via one of the four leads 162 to the commutator 157 to stop the repeat address. The data from the encoder 166 is in the form of an 8-bit code which is provided sequentially from the impulse up/down counters 166a through 166d to the gate 159. The commutator 157 provides a stop counter signal to the up/down counters or accumulators after the first address. The commutator 157 sequences the impulse up/down counters or accumulators 166a through 166d output during each field and provides a clear to these counters at the end of each field. The display ROM 160 is responsive to the 5-bit word from the primary function buttons and provides four addresses to the alphanumeric character generator 161. The alphanumeric character generator 161 is coupled to the appropriate display 163 to indicate the primary functions controlled by the knobs. The secondary information (i.e. from the red, green, blue, horizontal and vertical buttons) is indicated by the lighting of the buttons. The alphanumeric display 163 can be flashed when there is an out of range condition in the correction. For example, when the data out of the adder/subtractor 113 in FIG. 8 is near zero or 256, the reverse data in the serial bit stream is detected at detector 165 via gate 167 and is coupled to display generator 161. When the red, green or blue switches 129, 130 and 131 are depressed, this is encoded in the 1 bit per line encoder 170 which provides a logic "1" or "0" out of gate 167 during the setup control unit switch function interval. This switch output is also directly coupled to the monitors. Similarly, the waveform monitor switch buttons are coupled to encoder 170 which provides the 1 bit per line code during the setup control unit switch function interval to the camera processor. Similarly, the condition switch functions indicated by some of the top buttons on the panel are placed on the output data bus by being applied to encoder 170 and applied to gate 167. The mode switch buttons are coupled to an encoder 176 which sends a code to a function ROM 177 which identifies the mode switch being depressed. The function ROM 177 when a code is applied provides an 8-bit address, 8-bit data of all logic "1" or all "0" followed by a repeat address to gate 167.

(11) 4,158,208

[45] Jun. 12, 1979

3,730,984	3/1973	Smith	358/10 X
3,916,436	10/1975	Marey et al.	358/1
4,123,782	10/1978	Kimbara et al.	358/185 X

Primary Examiner—Robert L. Richardson
Attorney, Agent, or Firm—Eugene M. Whitacre; Paul J. Rasmussen; Robert L. Troike

[57] ABSTRACT

An automatic setup unit for use with color TV cameras of the type including a digital memory for storing the control values for the camera. An automatic setup unit which is responsive to the video from the camera when viewing a predetermined pattern, such as a chart for measuring errors, is coupled to the memory and provides control signals to the memory with the appropriate addresses for updating the memory and for applying the control values to the camera.

7. Chabna. 14 Drawing Figures

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

May 30, 1977 (GB) United Kingdom 22511/77

1511 Int CS:1 H04N 9/62; H04N 9/04

52] U.S. C. 358/10; 358/41

358/183
358/10 41 185

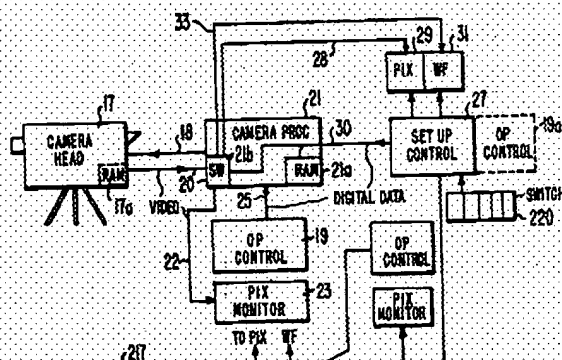
[58] Field of Search

[56] **References Cited**

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L3: Entry 4 of 6

File: USPT

Aug 21, 2001

DOCUMENT-IDENTIFIER: US 6279037 B1

TITLE: Methods and apparatus for collecting, storing, processing and using network traffic data

Brief Summary Text (14):

In order to facilitate the monitoring of network activity, remote monitoring (RMON) devices, often called monitors or probes, are sometimes used. These devices often serve as agents of a central network management station. Often the remote probes are stand-alone devices which include internal resources, e.g., data storage and processing resources, used to collect, process and forward, e.g., to the network management system, information on packets being passed over the network segment being monitored. In other cases, probes are built into devices such as a routers and bridges. In such cases, the available data processing and storage resources are often shared between a device's primary functions and its secondary traffic monitoring and reporting functions. In order to manage an intranet or other network comprising multiple segments many probes may be used, e.g., one per each network segment to be monitored.

Current US Original Classification (1):709/224[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

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L3: Entry 5 of 6

File: USPT

Aug 11, 1998

DOCUMENT-IDENTIFIER: US 5793963 A

TITLE: Apparatus for providing non-redundant secondary access to field devices in a distributed control system

Detailed Description Text (11):

More recently, field devices have been provided with microprocessors and additional functionality. Such "smart" field devices are capable of monitoring a plurality of process variables, performing a variety of control functions, performing comprehensive diagnostics, and providing a wide array of various types of status information. The Fieldbus specification specifies a variety of primary functions that may be supported by various Fieldbus field devices. In addition, many manufacturers have provided secondary functions beyond those specified in the Fieldbus specification. While Fieldbus field devices manufactured by different manufacturers are compatible to the extent that only Fieldbus specified functions are accessed, they are not compatible with respect to the secondary functions. For example, a Fieldbus controller manufactured by company A will generally not be able to access the secondary functions provided by a Fieldbus valve positioner manufactured by company B. Therefore, an industrial plant using a variety of Fieldbus components provided by different manufacturers will not be able to derive the benefit of all the functions provided by the various components.

Current US Cross Reference Classification (1):709/217Current US Cross Reference Classification (2):709/224[Previous Doc](#) [Next Doc](#) [Go to Doc#](#)

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L3: Entry 5 of 6

File: USPT

Aug 11, 1998

US-PAT-NO: 5793963

DOCUMENT-IDENTIFIER: US 5793963 A

TITLE: Apparatus for providing non-redundant secondary access to field devices in a distributed control system

DATE-ISSUED: August 11, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tapperson; Gary	Austin	TX		
Boyd; Thomas Andrew	Austin	TX		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Fisher Rosemount Systems, Inc.	Austin	TX			02

APPL-NO: 08/ 893126 [\[PALM\]](#)

DATE FILED: July 15, 1997

PARENT-CASE:

This is a continuation of application Ser. No. 08/328,324, filed Oct. 24, 1994 now abandoned.

INT-CL: [06] [G06 F 11/30](#)

US-CL-ISSUED: 395/200.31; 395/200.54, 395/200.47

US-CL-CURRENT: [709/201](#); [709/217](#), [709/224](#)

FIELD-OF-SEARCH: 395/200.31, 395/200.54, 395/200.47

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

[Search Selected](#)[Search ALL](#)[Clear](#)

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	4149237	April 1979	Freitas	364/138
<input type="checkbox"/>	4152760	May 1979	Freitai et al.	364/107
<input type="checkbox"/>	4268822	May 1981	Olsen	340/533
<input type="checkbox"/>	4303973	December 1981	Williamson, Jr. et al.	364/103
<input type="checkbox"/>	4726017	February 1988	Krum et al.	370/85
<input type="checkbox"/>	4729091	March 1988	Freeman et al.	
<input type="checkbox"/>	4910658	March 1990	Dudash et al.	364/138
	4916441	April 1990	Gombrich	340/712

<input type="checkbox"/>				
<input type="checkbox"/>	<u>5088021</u>	February 1992	McLaughlin et al.	364/187
<input type="checkbox"/>	<u>5099444</u>	March 1992	Wilson et al.	364/709.09
<input type="checkbox"/>	<u>5131019</u>	July 1992	Sheffer et al.	379/39
<input type="checkbox"/>	<u>5142550</u>	August 1992	Tymes	375/1
<input type="checkbox"/>	<u>5150363</u>	September 1992	Mitchell	370/112
<input type="checkbox"/>	<u>5239662</u>	August 1993	Danielson et al.	395/800
<input type="checkbox"/>	<u>5374231</u>	December 1994	Obrist	483/15
<input type="checkbox"/>	<u>5400246</u>	March 1995	Wilson et al.	364/146
<input type="checkbox"/>	<u>5451923</u>	September 1995	Seberger et al.	340/310.06
<input type="checkbox"/>	<u>5493569</u>	February 1996	Buchholz et al.	370/85.7
<input type="checkbox"/>	<u>5495482</u>	February 1996	White et al.	370/85.11
<input type="checkbox"/>	<u>5495484</u>	February 1996	Self et al.	370/110.1

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0 491 657 A1	June 1992	EP	
216109	August 1989	NZ	
227231	January 1991	NZ	
239534	November 1993	NZ	

OTHER PUBLICATIONS

D.A. Roberts, "Olchfa` A Distributed Time-Critical Fieldsou", IEE, UK, London, Digest No: 1993/189, Oct./93 pp. 6/1-6/3.

ART-UNIT: 232

PRIMARY-EXAMINER: Geckil; Mehmet B.

ATTY-AGENT-FIRM: Kinney & Lange, P.A.

ABSTRACT:

An apparatus for accessing field devices in a distributed control system provides non-redundant secondary access to a plurality of field devices that are controlled by a control room. The field devices are coupled to a Fieldbus control network. In a first embodiment, each field device is provided with a wireless Fieldbus port that is accessible by a wireless handheld unit or wireless terminal. In a second embodiment, each Fieldbus control network is provided with a field module having a wireless Fieldbus port that allows all devices connected to the Fieldbus control network to be accessed by a wireless handheld unit or a wireless terminal. In a third embodiment, an H2-to-H1 Fieldbus bridge (which may service a plurality of H1 control networks) is provided with a wireless Fieldbus port that allows all Fieldbus devices connected to H1 control networks serviced by the H2-to-H1 bridge to be access by a wireless handheld unit of a wireless terminal. In a fourth embodiment, a bridge/converter provides an interface between older analog control room components and newer Fieldbus field devices. In one configuration, the bridge/converter includes a hard-wired Fieldbus port connected to a terminal, which may be in the control room. In another configuration, the bridge/converter includes a wireless Fieldbus port that allows a wireless handheld unit or a wireless terminal to access the Fieldbus devices serviced by the bridge/converter. The present invention allows a maintenance person to access Fieldbus field devices while servicing a device in the field, and allows

secondary functions of field devices (which vary by manufacturer) to be accessed from a single remote unit.

27 Claims, 3 Drawing figures

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L3: Entry 6 of 6

File: USPT

Dec 16, 1997

DOCUMENT-IDENTIFIER: US 5699348 A

TITLE: Method and apparatus for error performance monitoring of a leased telecommunication circuit

Brief Summary Text (8):

The present invention relates to a method and apparatus for use in monitoring and analyzing statistical parameters corresponding to errors occurring in the transmission of data signals in a telecommunication system. Communication between two customer sites preferably occurs through the use of a leased line or circuit, which defines fixed paths between the customer terminals and which comprises a plurality of transmission media and a plurality of network elements, including a near end and a far end network element. Each network element preferably comprises a primary and secondary port, each of which functions in one of a plurality of modes, for example, a first mode, a second mode, or a third mode. According to one embodiment, each port is in either a terminated mode, a framed clear mode, or an unframed clear mode. Errors in the transmission of data signals are detected and collected in at least some of the ports each of which preferably processes the data it collects to produce statistical parameters such as errored-seconds or severely-errored-seconds. The statistical parameters are then sent to a central management system which executes a performance monitoring ("PM") count routine to determine the number of errored-seconds, or severely-errored-seconds, associated with each direction of transmission in the customer circuit.

Current US Cross Reference Classification (1):370/252[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

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L3: Entry 6 of 6

File: USPT

Dec 16, 1997

US-PAT-NO: 5699348

DOCUMENT-IDENTIFIER: US 5699348 A

TITLE: Method and apparatus for error performance monitoring of a leased telecommunication circuit

DATE-ISSUED: December 16, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baidon; Sami A.	New Milford	NJ		
Huang; Shirley L.	Holmdel	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Lucent Technologies Inc.	Murray Hill	NJ			02

APPL-NO: 08/ 551136 [\[PALM\]](#)

DATE FILED: October 31, 1995

INT-CL: [06] [H04 J 3/14](#)

US-CL-ISSUED: 370/242; 370/252, 395/185.01

US-CL-CURRENT: [370/242](#); [370/252](#), [714/48](#)

FIELD-OF-SEARCH: 370/242, 370/243, 370/244, 370/252, 379/10, 379/24, 379/26, 395/183.01, 395/185.01

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

[Search Selected](#)[Search ALL](#)[Clear](#)

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> 4730313	March 1988	Stephenson et al.	
<input type="checkbox"/> 5099511	March 1992	Matsumoto	379/198
<input type="checkbox"/> 5148426	September 1992	Shenoi et al.	370/32.1
<input type="checkbox"/> 5166890	November 1992	Smischny	364/551.01
<input type="checkbox"/> 5233648	August 1993	Nakamura	379/233
<input type="checkbox"/> 5311586	May 1994	Bogard et al.	379/221
<input type="checkbox"/> 5327489	July 1994	Anderson et al.	379/207
<input type="checkbox"/> 5329520	July 1994	Richardson	370/16

<input type="checkbox"/> <u>5329589</u>	July 1994	Fraser et al.	379/91
<input type="checkbox"/> <u>5343461</u>	August 1994	Barton et al.	370/13
<input type="checkbox"/> <u>5400266</u>	March 1995	Sato et al.	364/550
<input type="checkbox"/> <u>5450441</u>	September 1995	Harris et al.	375/224
<input type="checkbox"/> <u>5513173</u>	April 1996	Machemer et al.	370/252
<input type="checkbox"/> <u>5528748</u>	June 1996	Wallace	395/183.01

OTHER PUBLICATIONS

Gerald D. Austin and Hilary B. Tomasson, "Unlocking the Value of Performance Monitoring Data," Telephony, Nov. 14, 1994, pp. 49-52.

ART-UNIT: 263

PRIMARY-EXAMINER: Olms; Douglas W.

ASSISTANT-EXAMINER: Jung; Min

ABSTRACT:

A method and apparatus for use in monitoring and analyzing statistical parameters corresponding to errors occurring in the transmission of data signals in a telecommunications network is disclosed. Communication between two customer sites occurs through the use of a leased line or circuit, which defines fixed paths between the customer terminals and which comprises a plurality of network elements. Statistical parameters, corresponding to errors detected and processed at ports in the network elements, are sent to a central management system which executes a performance monitoring count routine to determine the total number of errored-seconds, or severely-errored-seconds, or other statistical parameters associated with each direction of transmission in the customer circuit.

12 Claims, 5 Drawing figures

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Search Results - Record(s) 1 through 2 of 2 returned.

- Jan 17, 1984

TITLE: MULTIPLEXING DEVICE

Apr 20, 2005

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TITLE: Communications bus station provides secondary bus monitoring function in addition to its primary function

Terms	Documents
(primary adj1 function) same (secondary adj5 function) same monitor\$3	2

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L1: Entry 2 of 2

File: DWPI

Apr 20, 2005

DERWENT-ACC-NO: 2004-143624

DERWENT-WEEK: 200527

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TITLE: Communications bus station provides secondary bus monitoring function in addition to its primary function

INVENTOR: FAIST, F; GROS, T

PATENT-ASSIGNEE: VEGA GRIESHABER KG (VEGAN), FAIST F (FAISI), GROS T (GROSI)

PRIORITY-DATA: 2002US-397558P (July 18, 2002), 2003US-0623199 (July 18, 2003)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> EP 1523826 A1	April 20, 2005	G	000	H04L012/24
<input type="checkbox"/> WO 2004010645 A1	January 29, 2004	G	043	H04L012/24
<input type="checkbox"/> US 20040139264 A1	July 15, 2004		000	G06F013/14
<input type="checkbox"/> AU 2003250959 A1	February 9, 2004		000	H04L012/24

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 1523826A1	July 15, 2003	2003EP-0764993	
EP 1523826A1	July 15, 2003	2003WO-EP07666	
EP 1523826A1		WO2004010645	Based on
WO2004010645A1	July 15, 2003	2003WO-EP07666	
US20040139264A1	July 18, 2002	2002US-397558P	Provisional
US20040139264A1	July 18, 2003	2003US-0623199	
AU2003250959A1	July 15, 2003	2003AU-0250959	
AU2003250959A1		WO2004010645	Based on

INT-CL (IPC): [G06 F 13/14](#); [H04 L 12/24](#); [H04 L 12/26](#); [H04 L 12/40](#)

ABSTRACTED-PUB-NO: WO2004010645A

BASIC-ABSTRACT:

NOVELTY - The bus station, e.g. a sensor (14), actuator (15) or gateway (23), performs a secondary bus monitoring function in addition to its primary function via an integrated bus monitor device (30) allowing access to telegram traffic along the bus system (5), for recording and reprocessing. The bus stations are connected in a network allowing monitoring of the bus system via the bus stations.

DETAILED DESCRIPTION - Also included are INDEPENDENT CLAIMS for the following:

- (a) a network with a bus system and at least one bus station;
- (b) a method for monitoring a bus system

USE - The communications bus station is used performing a primary function and for monitoring the bus system.

ADVANTAGE - Existing bus stations are utilized for providing bus system monitoring function.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of a bus system with integrated bus monitoring function in bus stations.

Bus system 5

Sensor 14

Actuator 15

Gateway 23

Bus monitor device 30

ABSTRACTED-PUB-NO: WO2004010645A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.7/10

DERWENT-CLASS: W01
EPI-CODES: W01-A06A; W01-A06B1;

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